What is claimed is:

1. A lithium secondary battery comprising:

an inner electrode body provided with a positive electrode plate and a negative electrode plate respectively made up of at least one metal foil wound or laminated; said inner electrode body being impregnated with a non-aqueous electrolyte;

current collector members to lead a current out of this inner electrode body;

a battery case with both ends left open; said case being used for housing said inner electrode body; and

two caps for sealing said inner electrode body at both open ends of said battery case; and one of said caps being provided with internal terminals formed thereon,

characterized in that positive and negative external terminals are formed on one of said two caps.

2. The lithium secondary battery according to claim 1, wherein a depressurization hole is formed on other one of said two electrode caps.

3. The lithium secondary battery according to claim 1, wherein said battery case is cylindrical.

4. The lithium secondary battery according to claim 1, wherein said battery case is a tube.

5. The lithium secondary battery according to claim 2, wherein said cell further comprises a hollow cylindrical core, and both said positive electrode plate and said negative electrode plate are wound around the periphery of said core.

6. The lithium secondary battery according to claim 1, wherein a necking section is formed in an area closest to the outer edge of at least one of the caps.

7. The lithium secondary battery according to claim 5, wherein said depressurization hole is formed on a position of the cap corresponding to the center axis of said core.

8. The lithium secondary battery according to claim 7, wherein the center axis of said core is coaxial with the center axis of said battery case.

9. The lithium secondary battery according to claim 5, wherein said core is made of Al or an alloy of Al.

10. The lithium secondary battery according to claim 2, wherein said depressurization hole is positioned on a portion of the cap to enable it to serve as an electrolyte inlet at the time of assembly.

11. The lithium secondary battery according to claim 5, wherein said core includes one or more holes or slits that

communicate with an interior of said battery case.

12. The lithium secondary battery according to claim 1, wherein said cap on which the positive and negative external terminals are formed is constituted by sandwiching an electrically insulating elastic body therebetween, thereby the positive and negative electrodes are electrically insulated.

13. The lithium secondary battery according to claim 12, wherein said elastic body is a packing being processed to a predetermined size.

14. The lithium secondary battery according to claim 13, wherein said packing is made from a member selected from the group consisting of ethylene propylene rubber, polyethylene, polypropylene and fluorocarbon resin.

15. The lithium secondary battery according to claim 1, wherein a joint between said battery case and said caps is a caulked one, a welded one or a combination thereof.

16. The lithium secondary battery according to claim 1, wherein that said battery case is a positively charged one.

17. The lithium secondary battery according to claim 16, wherein said battery case is made of Al or an alloy of Al.

18. The lithium secondary battery according to claim 5, wherein the cap in which said depressurization hole is formed includes a tabular member having the function as a cover, an elastic body processed to a predetermined size, a metal foil and a spacer,

said elastic body and said metal foil are placed at predetermined positions and combined with said spacer to form a depressurization mechanism unit, and

said depressurization mechanism unit is fitted into said tabular member.

19. The lithium secondary battery according to claim 1, wherein said current collector member is a plurality of strip-shaped current collector tabs and formed by attaching one end of said plurality of strip-shaped current collector tabs to the edge of said at least one metal foil making up said positive electrode plate and/or said negative electrode plate.

20. The lithium secondary battery according to claim 19, wherein the other end of said plurality of strip-shaped current collector tabs is connected to said internal terminal.

21. The lithium secondary battery according to claim 1, wherein said current collector member is a current collector member of a predetermined shape,

the edges of said at least one metal foil making up said positive electrode plate and/or said negative electrode plate are joined with predetermined locations of said current collector member to lead a current out of said inner electrode body, and

of the edges of said metal foil, the joint edges arranged to be joined with said predetermined locations of said current collector member are joined with said predetermined locations of said current collector member.

22. The lithium secondary battery according to claim 21, wherein said current collector member is connected to said internal terminal via an electrode lead member.

23. The lithium secondary battery according to claim 1, wherein said positive external terminal and said negative external terminal are made of different types of metal.

24. The lithium secondary battery according to claim 23, wherein said positive external terminal is Al or an alloy of Al and said negative external terminal is Cu or an alloy of Cu.

25. The lithium secondary battery according to claim 24, wherein said positive external terminal is Al or an alloy of Al and said negative external terminal member is Ni or an alloy of Ni.

26. The lithium secondary battery according to claim 1, wherein the cell capacity is 2 Ah or above.

27. A use of the lithium secondary battery according to claim 1 as a vehicle-mounted battery.

28. The use of the lithium secondary battery according to claim 27 as a starter of an engine.

29. The use of the lithium secondary battery according to claim 27 as a battery for an electric-powered vehicle or hybrid electric-powered vehicle.

30. An assembled structure of lithium secondary batteries, which comprises a plurality of the lithium secondary batteries according to claim 1, characterized in that a positive external terminal of any one of said plurality of lithium secondary batteries is connected with a negative external terminal of a lithium secondary battery other than said lithium secondary battery having this positive external terminal using a bus bar.

31. The assembled structure of lithium secondary batteries according to claim 30, wherein said bus bar is formed by joining different types of metal.

32. The assembled structure of lithium secondary batteries according to claim 31, wherein said positive external terminal is Al or an alloy of Al and said negative external terminal member is Cu or an alloy of Cu and said bus bar is formed by joining a material whose principal component is Al and another material whose principal component is Cu.

33. The assembled structure of lithium secondary batteries according to claim 31, characterized in that said positive external terminal is Al or an alloy of Al and said negative external terminal member is Ni or an alloy of Ni and said bus bar is formed by joining a material whose principal component is Al and another material whose principal component is Ni.

34. The assembled structure of lithium secondary batteries according to claim 30, wherein said bus bar is one manufactured by using at least one method selected from a group of methods of friction bonding, brazing, welding, caulking, rolling, forged caulking, press fitting, enveloped casting and blasting bonding.

35. The assembled structure of lithium secondary batteries according to claim 30, wherein said plurality of lithium secondary batteries are placed side by side and said depressurization holes provided in said caps of said lithium secondary batteries are on same plane.

36. The assembled structure of lithium secondary batteries according to claim 30, wherein the cell capacity of a lithium secondary battery each is 2 Ah or above.

37. A use of the assembled structure of lithium secondary batteries according to claim 30 for a vehicle.

38. The use of the assembled structure of lithium secondary batteries according to claim 37 as a starter for an engine.

39. The use of the assembled structure of lithium secondary batteries according to claim 37 for an electric-powered vehicle or hybrid electric-powered vehicle.